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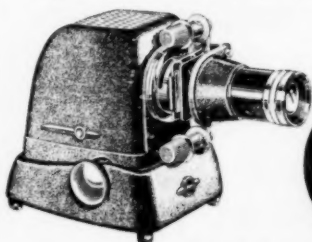
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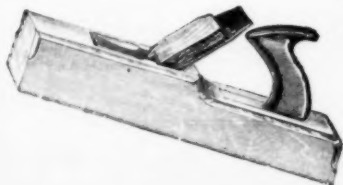
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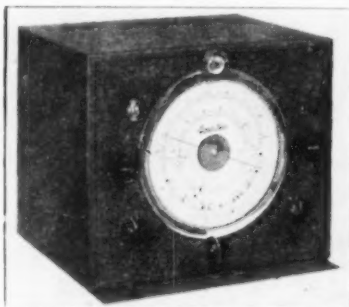
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The SCHOOL GOVERNMENT CHRONICLE

AN INDEPENDENT MONTHLY REVIEW OF EDUCATION.

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The Education of the Technologist

*Address by Sir Philip Morris, C.B.E., M.A., Vice-Chancellor of the University of Bristol,
at the 112th Annual Meeting of the Union of Lancashire and Cheshire Institutes.*

The history of the Union of Lancashire and Cheshire Institutes is colourful and varied. It has experienced many vicissitudes and even in the face of difficulties, at times exceedingly great, it has always shown the resourcefulness and vitality to find a constructive sphere of operations and a policy which was well adapted to the requirements of the times. Indeed, the Union may be regarded as typical of British institutions at their best. It has, throughout its history, and especially in its early days, been founded upon a movement conceived by men of high principle and good intention who were attempting to do what, in the light of their observation of men and affairs, seemed for the time being most important. The historian always tends to look in a past age for the concepts and ideas which have persisted and developed and so acquired permanent importance. In so doing, he frequently misses those aspects of past struggles which, though having little importance in the broad stream of human progress, can, nevertheless, excite succeeding generations to admiration and emulation simply because of the determination, persistence and fortitude which they demanded. In the early years of the Union's life, there were many occasions on which determination and persistence of no mean order were essential to the mere survival of the Union and there was no lack on these important occasions of men who had the necessary faith in the work to which they had set their hands and the determination and energy to advance it. Determined and courageous individual contributions to educational thought and progress are as important in our day as they were in theirs.

Conditions a Century Ago

One hundred and twelve years ago there was, perhaps, much excuse for apathy born of helplessness in the face of a gigantic and confused human problem created by the high and still flowing tide of industrialization. Masses of industrial workers, especially in the Midlands and North, had congregated and were still congregating round factories and cities and townships where institutions to bind them into units had still to be created and fashioned. At the time of the inception of the Union, there were few factory workers who had personal experience of crafts practised in the countryside in an older economic order, where the sense of community was strong and customs established and settled. With a steeply rising birthrate the good traditions of a simpler mode of life were transmitted in a much diluted form if they were handed down at all. The factories themselves were beginning to suffer from an insufficiency of men and women with a good general education and of men with the new knowledge on which the continuance and development of industry, as was already evident, depended. The new order of things which had come to pass was not providing that training for work and living which had been inherent in the older order

which it had replaced or overwhelmed. Also there was this new knowledge, the application of which had been the cause of such great changes and which now required to be acquired and mastered by a minority, and to an increasing extent understood by many more.

The great bulk of men, women and children in the industrial areas were in no condition to help themselves. An over-concentration on machines and the mechanics of production and preoccupations about new and strange distant markets had already produced a tragic stage of affairs before the importance of the human factor in an industrial society was recognized or had had time imperiously to demand the attention which it had long deserved. It was this state of affairs and the problems implicit in it which those who bore the initial burden of establishing the Union looked out upon and did what they could to improve. As the event proved, men and women with vision, faith and pertinacity which were proof against criticism and disappointment were needed to redeem a system which did not contain within itself the seeds of its own salvation.

The founders of what is now the Union, with considerable insight and still greater courage, took up the difficult task of educating men and women at work. They saw that while factories and machines offered the possibilities of higher standards of life, good living and a good society were not the automatic consequences of greater and cheaper production. Implicit in their acts was the principle that the strength of an industry, as of a city or of a society, is in the qualities and abilities of men and women engaged in it. They were among the great pioneers of their times and succeeded in creating some currents of genuine progress in a tumultuous sea of change.

These pioneers saw the complex problem of the lot and condition of men and women at work and saw it whole. Their intention was social reform and they adopted entertainment, social intercourse and access to newspapers and literature as well as formal education as a means of contributing to welfare and well-being. As other agencies and movements also made their contribution to this varied problem, and as education spread, the functions of the Union became more clearly defined and specialized, eventually focusing upon the provision of well-conducted and reliable examinations over a wide field of educational endeavour as the central theme. When, still later, local education authorities came into being and inherited responsibility for the maintenance and development of technical education, the position of the Union was already strong enough to remain undisturbed. This was fortunate, because the local education authorities not only had to grow into their important educational functions and find effective means of fulfilling them, but also had to bear responsibilities and duties which were heavy and pressing in many direc-

tions. The Union continued to exercise its function as an examining body and so continued to exert a powerful influence throughout the field of technical and further education.

Forming a Curriculum

In the formative educational period of the nineteenth century, the idea of examinations grew in people's minds and there is no doubt that ever increasing importance was attached to them. The importance attached to them was not based upon any serious study of examination techniques or of the validity of the results obtained by the methods used, but arose rather from the state of affairs as they then were. There was, in those days, no reliable teaching body which could take substantial responsibility for the establishment of standards and for evaluating performance. This was true of schools and institutions providing full-time education for boys and girls at the primary and secondary stage, and it was even more true in the wide and varied field of part-time education, where recourse was necessarily had to the extensive use of part-time teachers who were always untrained and frequently, because of their lack of experience, unaware of the difference between the dispensation of information and the education of men and women. In this complex and varied field there was no traditional curriculum and even if there had been such a traditional curriculum, the rapid proliferation of subjects would have made the definition of a curriculum a matter of great difficulty. Because of the newness of much of the subject matter and even more, perhaps, because of the absence of a body of full-time expert teachers, the arrangement of suitable subject matter into courses of reasonable length suited to part-time students constituted an urgent requirement. As there was no established traditional curriculum, there was also no tradition of teaching method. A large proportion of part-time teachers had no direct or accidental relationship with the educational system and were thus left, except for the help that they got from examination syllabuses and the practices of examining bodies, very much to their own devices and without sufficient supervision and advice. Lastly, the whole problem which technical education in those days seemed to present inevitably put the emphasis upon training in the specialized techniques required by industry, the imparting of information necessary to efficient work in industry and tended thus to obscure the essential truth that the imparting of information and technical training are not necessarily educational and, in any event, cannot constitute a well-balanced education.

While, therefore, the arrangement of examinations and the establishment of standards became the central function of the Union and of other similar bodies, the chief value of the work that they did is not to be found in the examinations themselves, valuable as they undoubtedly were and still are. Their chief contribution to educational progress lay in their gradual definition of syllabuses and courses and, in this manner, of a curriculum, the study and improvement of methods of teaching and presentation and a slowly growing recognition of the necessity of ensuring that technical training should, in due course, become a well-established and recognized form of good education. These are the chief values which still attach to the work of the Union, and the future well-being and usefulness of the Union is to a large extent wrapped up in its ability to continue to serve the cause of education in these ways. While the circumstances have been rapidly changing and while considerable progress has taken place, the three chief requirements of technological education to-day are a well-qualified and well-educated body of teachers, a well-defined and reliable curriculum and a recognition of fundamental educational principles in the technological as much as in other educational fields.

The Technologies and the Sciences

Perhaps one of the things which most complicates discussions about technological education is our inability or unwillingness to distinguish between the technologies and

the sciences, and further, between a technological and a scientific education. It is genuinely difficult to make a useful distinction because all technologists are to some extent scientists, and many scientists are to a greater or lesser extent also technologists. There is no technology which does not rely to an important extent upon fundamental scientific knowledge. Further, some leading technologists received a scientific education and, in the course of time, and because of the nature of their interests and employment, turned their scientific knowledge and training to a technological use. Also, to a lesser extent, some technologists have, in the course of their employment, discovered or reawakened an interest in fundamental principles, irrespective of their application to the satisfaction of men's needs, and have pursued these interests as scientists. Clearly, in a matter of this kind, arbitrary and water-tight distinctions have their dangers, but the absence of any attempt to recognize that while there is much in common between technologists and scientists, there are also differences, is a frequent cause of misunderstanding and confusion. This is particularly important at a time when much needs to be done to improve and develop the facilities for technological education and qualifications.

History shows that sometimes technological practices outstrip scientific knowledge. At these times technologists are able to do things and procure results by using processes and materials, the behaviour and explanation of which is as yet not fully discovered. Indeed, throughout the evolutionary process of civilization, man has been accustomed of his ingenuity and resourcefulness to use materials, construct tools and make things and machines, applying in the course of his activity principles which, though inherent in what he does, are only unconsciously understood. At other times quick advances in scientific discovery find us incapable of solving the problems involved in their application. In a number of directions this is the case to-day. There is fundamental knowledge available, as yet not applied or capable of being applied to the production of useful articles or the provision of desirable services. Technology and science, in the sense in which I have been speaking of them, interact on each other at all times and there is and there always should be not only movement of men and women between the two domains, but even some overlapping between them.

Notwithstanding the existence of this interaction and free movement across undefined frontiers, there is, nevertheless, a difference between the technologist and the scientist which it is useful to recognize. The technologist is always acquiring and utilizing scientific knowledge for the purpose of the production of tools and goods or for the provision of services ministering to the needs of men. The scientist, careless of the ultimate effects of his discoveries, is acquiring and advancing knowledge for the purpose of filling in and perfecting man's systematic and fundamental knowledge of the physical universe of which he is a part. If this distinction were pressed too far or led to any complete separation into disparate fields of technology and science, it would be dangerous. For the purpose, however, of discussing how and in what ways both fields of activity may be usefully extended and developed, it is, I think, a useful definition and helps not only to avoid more misunderstanding, but also to dispel any suggestion that to distinguish between two kinds of activity is to imply the superiority of one over the other. Both kinds of activity are important and useful and, at different times in the affairs of men, the one or the other calls for the greater amount of fostering and encouragement.

A Scientific Revolution

The movement through which we are living and in which we are taking part, has been rightly called a scientific revolution. The changes which have taken place in the last century and a half are unexampled in history both for their magnitude and for their complexity. Not only have entirely

new techniques been devised to simplify old tasks and to increase the productive power available to man, but also new materials have been discovered and devised and entirely new concepts arising out of scientific discovery have awakened in man new needs and new desires and at the same time brought their satisfaction within his compass. They have been complex because they have radically changed the basic assumptions of society, the climate of opinion, the attitude of man to his physical environment and to the forces of nature, and brought about a new state of interdependence between individual men and women as well as between the nations of a world which has quickly contracted and become small and compact.

To think of this revolution as having been caused by scientific discovery or as being in its most important aspects narrowly scientific is to take too superficial a view. No doubt the underlying causes of this scientific revolution were of slow growth through the centuries and can be traced originally to the new wave of optimism which was ushered in by the Renaissance. The application of knowledge to practical affairs, a new and important departure, in its effects was slow and gradual so long as it was confined to traditional activities in a predominantly agrarian economy. It was when, by contagion and inventive genius, new knowledge began to be applied to the productive crafts of a domestic industry and communications were revolutionized that the rate and scope of change became a revolution.

The remarkable inventiveness and energy which initiated the Industrial Revolution and gave it its momentum did not originate amongst scientists or in the universities, for by then the civic universities had not come into existence and the new knowledge which was so closely concerned with industry and trade had not found its way into the universities of older foundation. The generation of greater power under effective control and the mechanization of slow and tedious manual processes were the causes of an industrial revolution which can now be seen to have had a revolutionary effect upon political and social life and, indeed, upon the whole course of civilization. However, what is more relevant to our present theme is that the development of factories and the expansion of production generated a demand for new materials, new processes and new outlets for a productive energy which traditional materials and end-products could not satisfy. A thirst for new scientific knowledge was the result, and a scientific revolution was both caused and at the same time made economically possible by the fruits of technological advance.

The development of scientific activity and the spread of scientific education, already well advanced in the second half of the last century and powerfully affected in this century by two world wars in which the frontiers of scientific knowledge have been assailed and stretched in two desperate struggles for survival, have proceeded apace, generously assisted by encouragement and finance both from industry and the State. Fundamental research and the development of a systematic body of principles underlying the structure and behaviour of the physical universe have proceeded and have outstripped our capacity to apply new knowledge to immediate and practical ends. They have tended to be regarded not only as the sole progenitor of the modern scientific movement in industry and commerce, but in a society, the survival of which is bound up with industrial progress in an interdependent world, tend to be regarded as the foundation of society itself. Now, vital as fundamental research and the development of systematic knowledge are, they cannot be to society what at times they claim to be unless there is a corresponding technological advance which, by making new knowledge available in use, at once makes it contribute to the needs of society and also suggests and encourages new lines of enquiry and enables them to be more effectively pursued. A phase of technological advance is overdue and to that end it is necessary to discover how technological education may be improved and expanded.

Development of Industrial Education

The nature and course of educational developments have always been largely shaped by the wider movements and developments to which I have been referring. The need to spread literacy and to provide moral and social influences more generally over a rapidly increasing population was sharpened by the process of industrialization which produced the resources from which to supply it. The rapidly growing importance of knowledge to industrial developments not only gave rise to experiments in selective higher education, but was very largely responsible for the institution and development of our civic universities. It was also responsible for renewed attempts to provide for men and women at work not only an explanation of the rapid changes which were coming about, but also, in a more formal way, opportunities to acquire the technical knowledge and qualifications necessary to success and advancement at work. Because of the general circumstances of the time, technical education found itself struggling to find a place in the sun against a host of difficulties, and while much progress has been made in the last two or three decades, it still finds itself very much in this position. Its capital equipment has always been too meagre, its annual resources insufficient and its share of the time, attention and energy of boys and girls and men and women at work has been inadequate. Further, while local education authorities have been too inclined at times to think that industry can do more in the field of technical education than is, in fact, either likely or possible, at times also industry, or at any rate a large proportion of industrialists, have withheld their full support and co-operation in developments which must at once be expensive to the public purse and costly and inconvenient

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in their demands upon the time and energy of men and women in employment, especially in their formative years.

It is not to the way in which responsibilities for the development of technical education have been disposed that our present deficiencies and shortcomings are due. Neither are they due to lack of energy and ability within the technical colleges and institutions themselves. Indeed, considering the circumstances and difficulties of our technical colleges and of all who work in them and for them, they clearly have notable achievements to their credit. If the progress which ought to be made and which our present necessities demand is to come about, what is most needed is not a radical change in its organization, but a new estimation of its function and importance leading to circumstances more favourable to its encouragement and development.

The Part of the Universities

The universities have and must continue to have an important responsibility to discharge. They are responsible, and must continue to be so, for the transmission and extension of fundamental knowledge upon which an industrial society to a greater and greater extent relies. They must continue to extend their interests over those scientific fields which have a direct bearing upon technological discovery and advance and they must be ever ready to procure and encourage co-operation and interaction between the scientists working within their walls and all who are concerned with technology and technological education, both in industry and in technical colleges. In the advanced stages of technological research and education there is undoubtedly a common field and it should be made possible for such advanced work to develop both in technical colleges and in universities with as free an interchange of personnel between them as can be encouraged and obtained. For the universities to withdraw from the development of scientific subjects which have technological aspects would be unwise and dangerous. It would be equally unwise if technical colleges were deprived of the opportunity of developing advanced technological work, both because it would be frustrating to them as institutions and also because genius is like the wind and bloweth where it listeth and must have its encouragement and find its opportunity wherever it appears.

There is, as it seems to me, no need for the development of a new and separate university for the encouragement of subjects which have close and intimate technological affinities. The world of fundamental science has a unity of its own and to partition it would be to lose the opportunities of interaction between men and women working in different scientific fields which is still, probably the most profitable and effective means both of scientific education and of scientific progress. Further, as I shall seek to emphasize in another context presently, science as a field of knowledge is not a kingdom in itself, but is part of the whole body of human knowledge, which also has unity. For the Humanities to be practised and developed without direct contact with scientific activity may not only make them seem to be unimportant and insignificant in the modern world, but may even make them sterile and incapable of continuing to exercise that influence on men's minds that they ought undoubtedly to have. Further, all scientific and technological activity is carried on by men who must discharge in their homes, their cities and in the community at large all the responsibilities and duties of citizens and, because of the power and influence which scientific knowledge in modern society possesses, need not less but more opportunities of developing their sense of perspective and their powers of judgment in the direction of the course of human affairs.

There is undoubtedly a field of technical education which is and should continue to be the responsibility of local education authorities, acting in close and increasingly intimate co-operation with industry and commerce. The

curriculum which the Union has done so much to define and develop has a practical reality and a relevance to the problems and needs of workers in industry and commerce and it should, in the future, be our business more effectively to utilize this curriculum and the methods of teaching which are associated with it. It is probably not so much in the field of the curriculum that our immediate problem lies. It lies much more in the provision of a material framework and the necessary financial resources on the one hand, and in the increasing and more understanding co-operation of industry, by which experience at work and teaching in technical colleges may together provide a satisfactory technological education which, though technological in its flavour and substance, is nonetheless a genuine education.

If our efforts to develop technical education are to succeed, we must once more remind ourselves that what we are concerned in is not mere technical training. While relevant information and appropriate skills are essential and necessary means, they do not by themselves supply all that is necessary. We can too easily forget, especially when the subject matter with which we are concerned is so immediately useful and so obviously related to the production of goods and the advancement of careers, that all education is primarily an affair of persons and of personal relationships. If, in our anxiety to develop techniques and to make relevant information available, we overlook what is in the end more fundamental still, the importance of the people themselves, we shall achieve little. More and more attention needs to be given not only to the use of the subject matter for the purposes of personal development, but also to the relationship between subjects and to the importance of ensuring that those for whom we have so much responsibility grow in stature as they increase their skill. This would seem to be the restatement of a truism or to be merely idealistic were it not for the extent to which the subjects have proliferated of recent years. A glance at the Handbook of the Union shows very forcibly what a vast field is covered and into how many particular subjects it is divided. Closely related as technical education will always be to industrial organization and the splitting up of industrial occupations, the responsibility for establishing and maintaining the reality of unity with diversity as the order of things will be a difficult one and will remain the responsibility of those who are responsible for technological education. The devising of individual curricula for boys and girls which are suitable in scope and in method, both to their requirements at work and their needs as individuals is, in the last resort, the root of the whole matter.

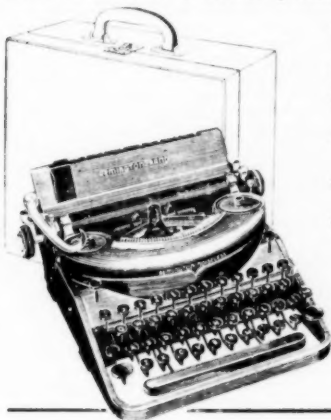
Higher Technological Education

I had gone thus far in the preparation of this address when, at what was for me the eleventh hour, the White Paper on Higher Technological Education was published. To attempt to pass judgment on the policy in the White Paper is impossible until the further promised statements are made. I have been obliged to ask myself how far the policy in the White Paper takes proper account of what are to me the three most pressing needs. That the policy is undramatic and offers no quick and miraculous remedy for so much past neglect of so important a field of education is to me no surprise. There is plenty of scope for boldness, daring and vision in many quarters and in many institutions which should give satisfaction to those who believe, as I do, that all education consists primarily in personal and individual thought and action. In this field of education most is to be gained by procuring the maximum enthusiasm and energetic action in every person, institution and authority at present exercising responsibility for its cultivation. What, then, are to me the three main weaknesses?

The first and at present the most urgent need is the development of improved and more generous facilities for varied technical education suited to boys and girls between leaving school and the attainment of a first recognized

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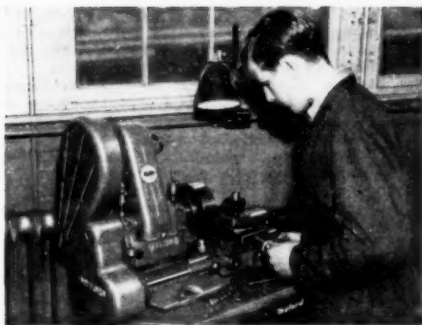


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qualification, facilities which will nourish and strengthen those who cannot aspire so high as a first qualification as well as those who can. How far the published policy will assist in this direction will depend partly on how improved financial assistance is made available for selected courses and colleges and even more on the quality of the educational thought which goes into the development of the courses selected for these developments, which will and should have their influence throughout the field of technical education.

The second need is a further recognition of the large number of new technologies which at present lack qualifications of the status and respectability of the comparatively long-established and almost traditional engineering professions. Whether the College of Technologists meets this need will depend upon the tolerance, willingness to co-operate and broad-mindedness of those who are at present leaders in the many professions involved and to some extent, too, of the universities contributing not only to the older-established but also to many of the newest technologies.

Thirdly, there is the need for the extension of the provision for really advanced teaching and research to provide for which a technological university has been, in many quarters, strongly advocated. When so much new work at this level is being developed in existing universities, not without the greatest difficulty in our present straitened resources in men, materials and money, and when work at such a level should urgently and immediately be encouraged and given its head in some existing technical colleges we should, it seems to me, make progress where we immediately can before we consider seriously an entirely new and highly centralized institution which would take a long time to initiate and still longer to become established and would, because of its costliness, inevitably involve the disappointment of good proposals which can, on a decentralized basis, make much more immediate and more widespread con-

tributions to our urgent needs. It may well be also that by proceeding in such a way, those who, at present dislike the very idea of a technological university, may presently be able to consider, as the White Paper suggests, such a proposal on its merits.

Whatever discussion and controversy, however, takes place as a result of the White Paper, we must not forget that our main duty is not only to think and argue, but also to act. If the pattern of the immediate future is to make undramatic progress in a number of peripheral sectors of this very wide field, we can take heart and courage in the thought that it is a challenge to the many rather than to the few and that more people and institutions can give of their best, if they will only be tolerant and co-operative enough to do so. Indeed, the professional associations, the local education authorities, the existing examining bodies, the technical colleges and the universities are being given the challenge which faced the pioneers of your Union who, as I said at the beginning, proved themselves to be "men of high principle and good intention, attempting to do what, in the light of their observation of men and affairs, seemed for the time being most important."

Cultural Co-operation between the Five Brussels Treaty Countries

Experts on cultural co-operation between the five Brussels Treaty countries—Belgium, France, Luxembourg, the Netherlands, and the United Kingdom—met in Brussels from October 29th to 31st.

Differences in the regulations about collective passports in the five countries have been an obstacle to youth party travel in the past. As a result of concessions made by the five Governments, a simple and uniform procedure for the issue of these passports for travel between the five countries will soon be agreed and the experts plan to draw up a Protocol which will summarize the regulations.

The question of exchanges of young workers of the five countries has also been studied by the experts and they have agreed to do everything they can to help young workers to go abroad under the exchange system. They are arranging some trial exchanges between firms in the near future.

Special courses on questions of interest to young people are organized each year by the Five. In 1952, two courses will be held—one for technical experts in dramatics for young people and the other for officials who deal with youth services.

The Committee of experts reviewed the working of the Cultural Identity Card scheme in the five countries. They decided to widen the scope of the scheme by including student employees on exchange visits and members of the national committees of youth movements in the list of those who can obtain cards.

Over the past three years a series of annual courses, each for about fifty teachers of the five countries, has been held under the auspices of the Brussels Treaty Organization. At these courses, a short pamphlet for teachers has been produced which suggests how best the basic principles of Western European civilization can be made known to the school children of the Brussels Treaty countries. It is hoped to publish this brochure in about six months' time.

A course is planned for 1952 in the United Kingdom for teachers of the five countries: its subject will be the education of young workers.

Several questions of interest to students are being discussed by the Committee of experts; for instance, social security for university students and labour permits for foreign students desiring employment during the period of study abroad. The experts are also examining ways of making more information available to students on where and how they can study at the universities and colleges of the five countries.

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Shoreditch Training College

The war-time home of Eros has become a men's residential college for training teachers in arts and crafts. Shoreditch Training College moved this term to new premises at Cooper's Hill, Englefield Green, and the official opening took place on November 15th, when Mr. R. McKinnon Wood, O.B.E., M.A., Chairman of the L.C.C. Education Committee, performed the opening ceremony.

The history of Shoreditch Training College goes back to the early days of the century when the work of training young men as teachers of craft was started in a South London school and was later transferred to Shoreditch Technical Institute, which had been founded in 1899. Like other pupil teachers of those days, the students followed a four-year course, but at the end of their training, they were qualified to teach in manual centres only.

The College was formally recognized in 1919 by the Board of Education as a training college; it continued to occupy part of the premises of Shoreditch Technical Institute in Pitfield Street, and the staff of the two establishments formed one body.

From 1921 students completing the course of training provided by the College ranked as fully certificated teachers. The College not only followed the normal practice of recruiting its students at the age of eighteen, but also continued to run the preparatory department to which boys came at the age of sixteen for a two-year course or at seventeen for a one-year course. In this the College was unique among training colleges in the country.

In 1930 the College was affiliated to Queen Mary College as Group VII of the University of London Training Colleges Delegacy. The staffs of the Training College and the Technical Institute were separated, some of the existing staff being re-appointed as College lecturers for service only in the Training College. From then on all new members of the staff were appointed to the Training College, which now had its own governing body.

During the 1939 war the number of students fell to fifty and the staff were reduced to seven. Work, however, continued in the Pitfield Street premises in spite of damage caused by land mines in the neighbourhood in 1940 and by incendiary bombs in 1941.

After the end of the war, as part of the national effort to provide more teachers, the number of students was increased to 350. Room was found for the extra numbers by the removal from the technical institute of the two trade schools and by the repair of the damage done in the war. In September, 1947, a series of one-term courses was started for teachers who had successfully completed an emergency training college course and were recommended by the Ministry of Education for a short specialist course in Handicraft.

The buildings in Shoreditch were never really adequate, lacking suitable accommodation for social activities and having only limited canteen facilities. There was no hostel accommodation and so students lived at home or in lodgings, travelling each day from the Home Counties or from London. The College at Cooper's Hill is now residential and has facilities for sport and other activities so that a much wider college life is possible.

Since 1948 the College has been a constituent of the University of London Institute of Education and all its full-time lecturers are lecturers in the Institute. The Board of Governors of the College was reconstituted in October, 1951. The students number 280, of whom 240 are resident. There are twenty-seven lecturers on the teaching staff, of whom fourteen reside in the College. The traditions built up at Shoreditch will be maintained in the new home at Cooper's Hill, and the College will continue to provide training for men who wish to acquire special qualifications in Art and Craft.

N.U.T. Regrets

In sending congratulations to Miss Florence Horsburgh on her appointment as Minister of Education, the National Union of Teachers expresses their "profound regret that she will not be a member of the Cabinet. Such an omission is a serious break with practice. Having especially in mind the difficulties through which this country is now passing, it is the Union's view that the service of Education, with its responsibilities for the quality and technical efficiency of our citizens, demands that its chief representative should be included as a member of the highest Council of State."

N.U.W.T. Manifesto

In connection with the announcement that the Authorities' Panel of the Burnham Committee is to examine the claim made for a revision of the basic salaries of teachers on account of the rise in the cost of living, the National Union of Women Teachers points out that, since the rates for women teachers are based on a fraction of the comparable rates for men, the differentiation in the actual salaries for men and women is widened at each upward revision—a difference which has risen from £84 for assistant teachers in elementary schools in 1938 to £126 in the maximum basic salaries for assistant teachers in 1951. Thus, women teachers not only share the burden caused by the increased cost of living but they are required to bear a progressively heavier burden because of the practice of paying them less than the rate for the job.

The National Union of Women Teachers urges that this "intolerable exploitation" of women teachers shall be brought to an end by the immediate establishment of equal pay for men and women teachers of the same professional status.

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Universities and Industry in America

*In the Spring of this year a team of fifteen representatives of British industry, the universities and technical colleges, and the Ministry of Education, visited the United States of America to investigate the relations between the universities and industry in that country.**

Although the visit was sponsored by the Anglo-American Council on Productivity, with E.C.A. technical assistance, it was recognized that the assignment of this particular team was rather different from that of the many other productivity teams that have been sent out. The enquiry was not concerned with the detailed factors affecting industrial production, but rather aimed at determining whether there were any lessons to be learned from America on the broad issue of the university-industry relationship, and the extent to which it might be a contributory factor in national prosperity.

During seven weeks spent in the Eastern part of the United States, the team visited seven universities as well as a number of degree-granting colleges and institutes of technology, where presidents, deans and faculty members placed themselves unreservedly at its disposal. Industrial contacts included conferences with individuals and groups representing a range of professional bodies and manufacturing interests, but no attempt was made to inspect industrial plants.

The American Scene in the Educational Field

The team was impressed by the keen and widespread interest in college education and in comparison with Great Britain the more extensive provision of facilities for this type of education. It arouses wide public interest, is sought after by a large section of the public, and both parents and students are prepared to make considerable sacrifices to secure the benefits and prestige which it affords. In the United States there are some 1,294 institutions which confer degrees, and in 1949-1950 half-a-million bachelor's, master's and doctor's degrees were conferred. There are, in addition, nearly 600 higher-education institutions, and the total enrolment in the Autumn of 1950 at undergraduate and graduate levels for full and part-time students was over two-and-a-quarter million.

A much greater proportion of boys and girls in the United States embark upon a degree course in college than in Great Britain. The normal college course is of four years' duration, but the level of attainment is such that the average entrant from the high school is about two years academically behind his counterpart entering a British university, which has an important bearing upon the standards of college education. In America there are both state-owned and privately-owned colleges and universities, and in each of these categories there are institutions of high repute, but the range of variation both in size and quality is much greater than that which prevails among British universities.

An interesting feature noticed by the team was the high proportion of those who enter American colleges and leave before they have completed a degree course. Whereas in Great Britain, this would be regarded as extravagant and educationally undesirable, it does not seem to be so regarded in America. Taking all colleges together, about 50 per cent of those who enter leave without a first degree, most of them at the end of the first year. This rate of attrition varies within wide limits. In general, it is higher in state colleges and universities than in those private institutions (attended by about one-half of all the students in America) which can be selective in their admission. Tuition fees in the state institutions are frequently negligible, but in other American colleges, both for full-time and for part-time instruction,

they are high in comparison with British universities, and scholarships are relatively few in number. At a private college tuition fees are of the order of \$600 a year and the total annual cost, including residence, \$1,800 or more. There is a certain amount of concern at the present time in privately-controlled colleges with regard to finance. Rising costs have made high fees necessary to supplement endowments, although the state-owned colleges are often in a more fortunate position as their state grant may be adjusted to meet such rising costs.

One of the striking features of American college life is the extent to which students undertake some paid employment in their spare time and during vacations, and this is done with the knowledge and support of the majority of the college authorities. In general, there would seem to be a good deal of enthusiasm in the United States for this type of student earning, but while there may be some advantages in the practice, the team takes the view that too many extraneous activities of this kind may have educational disadvantages.

One characteristic feature of American university life which has a close bearing on the relation between the universities and industry is the alumni association. Each university has its associations of graduates or alumni who are organized in 'classes' according to order of graduation and the area of residence. The team was impressed by the considerable use made of these alumni associations, both for the purpose of obtaining financial support and for maintaining and expanding relations between the various colleges and industry, and expresses the view that the desirability of extending such graduate contacts be explored by our own universities.

Engineering and Science Education in America

College courses most closely related to industry are, as would be anticipated, those in engineering, chemistry and physics. In America the term 'engineering' has a wide connotation and covers many fields of applied science which, in Great Britain, would be called 'technology'. Most engineers in American industry have received their education in degree-granting institutions. In 1950, the number of first degrees awarded in engineering was 52,246, and the comparable degrees for chemistry and physics were 10,619 and 3,414.

In view of the fact that, in America, the term 'engineering' is applied also to cover all those activities in which the application of science is necessary to the production of the end product, it is not surprising to find that chemical engineering has been developed there to a considerably greater extent than in this country. In 1949-50, 4,529 first degrees were granted in chemical engineering, and many Americans believe that this large number has had an important bearing on the rapid progress of industry in the United States. The contrast merits attention by both industry and universities in Great Britain.

Apart from the degree-granting institutions in America there is no considerable alternative source of supply for senior positions in industry comparable with that which is forthcoming from the technical colleges of Great Britain, although the 'co-operative' system which is a counterpart, with certain differences, of the British 'sandwich' system, is an interesting development in American engineering education. 'Co-operative' courses are conducted with great enthusiasm by a small number of institutions, but the movement is not showing any very marked expansion,

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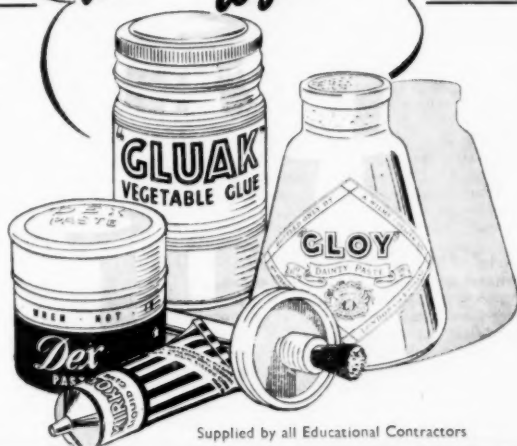
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probably owing to the administrative difficulties both in the college and in the industrial concern which, while not insuperable, may do much to offset whatever benefits the scheme may provide.

Provision for evening courses of an advanced character is normally to be found in America only where colleges and universities are located in large industrial centres. Evening degree courses extend over 6-8 years and the curriculum is generally identical with that followed by full-time day students. The total cost to the student and the final award are the same. Evening courses do not, however, play so important a part in the educational system at this level as they do in Great Britain, nor does American industry offer so much encouragement to its employees to attend part-time courses.

There is a wide system of accreditation of engineering courses in America through the activities of the Engineers' Council for Professional Development, and the team was very much impressed by the general recognition that engineering and science courses should be broadened by the inclusion of some study of the humanities. To some extent this development, which has the support both of college teachers and of industrialists, is intended to make good some of the deficiencies of the high school education, but it is also regarded as very desirable in itself and is something which would be continued even if a general rise in high-school standards were to be achieved. The engineer must be aware of the economic and social implications of his work, and in his education should be subjected to a discipline of thought relating to these aspects. It seems to be commonly accepted in American universities that in engineering and science courses about 20 per cent. of the curriculum should be devoted to studies of this kind.

Comparison With the British System

In addition to commenting on the standards of entry to universities from the high schools, the Report contains some important comments on the standards of engineering graduates turned out by the American universities. Although many more students take a first degree in science and engineering, the team considers that the British first degree (B.Sc.) should be compared not with the American first degree (B.S.) but with the American second degree (M.S.), and from a comparison on this basis it is concluded that the result is not unfavourable to Great Britain. When comparison is made of the output of doctors in America with the British output of masters and doctors, also adjusted on a population basis, it would appear that, although there is an advantage to America in the production of scientists at the higher level, there is an advantage to Great Britain in respect of engineers at the higher level: but on this subject a note of warning is struck in the Report that there is no room for complacency. In order to keep pace with the recent increase in the size of the graduate schools in science and engineering in America, it is considered that at the highest university levels in this country there is a need for some increase in the numbers of those in the pure and applied science and engineering departments who will find their life's work in industry. Again it is considered that an important part is played in American industry by the men who leave with the bachelor's degree, particularly in engineering. These men have no counterpart in Britain. Our graduates have been educated to a higher level, and our relatively fewer holders of Higher National Certificates are, in their narrower technical fields, as far as, if not further, advanced than the American graduate, but they have generally obtained their qualifications by part-time study necessarily directed almost entirely towards that technical end.

The team believes that the American graduate derives much benefit from participation in a co-operative life and from the inclusion in his studies—in addition to a grounding in the fundamentals underlying his major subject—of humanistic subjects to broaden his outlook. It also expresses

the view that if adequate provision is to be made for the supply of suitably qualified men for industrial employment on the scale now current in America, immediate attention should be given to the provision of extended facilities for preparing a large number of young men for industry by giving them a broad general education on a full-time basis with technical standards at least as high as that of the Higher National Certificate courses. The team urges that close study should be given to the problem of how and where such men should be educated, and that the efforts to secure a solution of the problem in this country should be intensified.

The opinion is expressed in the Report that large numbers of American engineers during their years at college and subsequently in industry, develop an enthusiasm for seeking new and improved methods. The idea that methods and materials in use to-day may be out-of-date to-morrow is encouraged. This may be a result of their training, or one of the manifestations of 'the American way of life.' Whichever it is, the result is obviously beneficial to American industry, and much more emphasis should be placed in this country on fostering such an attitude of mind.

The most interesting observation in the Report on the position of research in America is that there is nothing to correspond to the British Department of Scientific and Industrial Research, and this may be one of the reasons why American universities carry out so vast an amount of sponsored research both for government and industry. Excluding nuclear physics and after allowing for the difference in the size of the two populations, the team concludes that America is spending about seven times as much on science and engineering research in its universities and colleges than is being spent in British counterparts, and it considers that, if fundamental research in this country is to maintain its position, a considerable increase in the funds made available to support pure and applied scientific research in universities is essential. It also wishes to see collaboration between universities and the research associations strengthened, and points out that the great advantages of encouraging academic staffs to undertake consulting work with industry.

American Industry and Education

To an increasing extent the senior positions in American industry are filled by graduates and the number of men rising to high positions who enter direct from school is diminishing. In view of the 'creaming off' from British schools for higher education, a similar result may be expected here, and it is hoped that British industry will realize the position.

In America relatively few arts graduates, apart from those who have majored in business administration, find employment in industry. Although the subject of training for management is being examined by another Team, the view is expressed in the Report that the extensive provision of full-time courses in business administration, commonly provided at the stage of post-graduate study and designed to supplement engineering or other education, is without parallel in Great Britain, and appears to be a factor of some significance in the relations between universities and industry.

Only a short reference appears on the subject of women graduates. They play only a small part in American industry and the team formed the opinion that American industry affords no greater opportunities than British industry for women with college training.

In conclusion, the team urges that "So far as this country is concerned, leaders of industry, in all grades and sections, recognize and study the very high place accorded by American industry to the application of science and scientific method in the solution of its problems. In British industry a much larger use of scientifically trained staff is called for. The team, therefore, strongly recommends that industry in this country should:

- (a) Recruit a larger proportion of persons educated in

full-time courses, either at the universities or technical colleges;

(b) Afford such persons ample scope and encouragement so that full benefit may be gained from their education;

(c) Encourage specialist members of staff to place their knowledge at the disposal of the universities and technical colleges for instructional purposes;

(d) Provide facilities for the initiation and training of recruits from universities and technical colleges in specific fields in cases where such provision is not now made;

(e) Extend facilities for releasing members of staff for higher education."

In general, the Team recommends the encouragement of a closer association between the universities, technical colleges, and industry through the media of graduate associations, conferences, appointment boards and other means.

Safety Education

Presiding over the Safety Education Session at the recent Congress on Road Safety, Sir Frederick Mander, former General Secretary of the N.U.T., asked "Why there are no 'Safety Education' Teachers?"

"I was thinking the other day," he said, "that I had seen thousands—perhaps millions—of advertisements in my time for teachers of various kinds. There had been advertisements for history teachers, science, English and cookery teachers, careers masters and mistresses, but I have never yet seen an advertisement for a teacher of safety education."

He went on: "I think the answer is that it is not necessary to advertise for specialist teachers in this sphere because safety training has taken on a general connotation and has become the responsibility of all the members of school staffs."

The chief speaker was Dr. J. Ewart Smart, Chairman of the National Safety Committee for the last fifteen years, who gave a review of "Safety Education, surveying the past—suggestions for the future."

Dr. Smart said much good could emerge from a survey of the past, and dealing generally with the past five years' progress, he said those years had witnessed the realization of two important steps—the intensification of a non-stop children's safety campaign and the establishment of a wider circle of interest among all types and classes of societies and institutions.

"In the case of the first," he said, "the existence of RoSPA House is necessary to cope with the continual streams of children who flow in and out of our schools, and as for the second, it is necessary to maintain continual contact with all well-wishers in order to counteract the effect of changing personnel."

Suggestions

Among suggestions made for the consideration of the National Safety Education Committee were:

Road safety should be a definite subject in secondary schools, perhaps suitable for inclusion in the senior examination.—Miss P. Hines.

The Society should try to send a speaker on road safety to teachers' training colleges to enable pupil teachers to put over the message when they were appointed to schools.—Mr. E. Curry.

Miss R. Carberry advanced three suggestions for spreading information on safety: posters designed specially for children; school safety "caps"; a "good turn" week when children breaking the Highway Code should be helped by older people.

Miss F. E. Dyer, a Chesham, Bucks., head mistress, paid tribute to the schoolgirl crossing patrols in Buckinghamshire, who, she said, were doing tremendously good work for the Society.

Ministerial Appointments

Miss Florence Horsburgh, Minister of Education, has appointed Mr. Richard Fort, M.P., to be her Parliamentary Private Secretary, Mr. E. B. H. Baker, O.B.E., to be her Principal Private Secretary, and Mrs. M. P. Allinson to be her Assistant Private Secretary.

Mr. Kenneth Pickthorn, Parliamentary Secretary, Ministry of Education, has appointed Miss J. C. Hill to be his Private Secretary.

The Minister of Education has appointed the following persons to be members of the Central Advisory Council for Education (Wales) for three years as from 1st December, 1951: Mrs. D. Myrddin Davies, Cardiff; Professor Idwal Jones, Aberystwyth; Councillor F. Shail, Swansea; Mr. R. B. Southall, Llandarcy; Dr. Emlyn Stephens, Glamorgan; Rev. G. O. Williams, Llandoverly.

Housecraft Advisers and Food

Emphasis will be on food and catering at the annual conference in January of electrical housecraft advisers and senior demonstrators, which will be attended by some 300 delegates from all parts of Great Britain and Northern Ireland.

The business sessions will take place in the Royal Empire Society's Hall, Northumberland Avenue, on January 29th and 30th, when the opening address on "The World Food Situation," will be given by Lord Horder, which will be followed by one on "Food in the Teaching of Housecraft and the place of the Housecraft Adviser in connection with Schools," by Miss M. R. Power, H.M. Inspector, Ministry of Education.

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Month by Month

Interest on Loans.

The raising of interest rates on loans for the building of new schools is not in itself an educational matter. The new Government policy of dearer money was not determined and could not even be influenced by the Ministry of Education. Education is now unrepresented in the Cabinet of Ministers of the Crown. If the causes of the new action are non-educational the same cannot be said of the effects. The burden of loan charges which must fall on the ratepayers and taxpayers is greatly increased and must inevitably result in a reduction in the amount of school building. In the debate on the Public Works Loan Bill the Minister for Economic Affairs referred to "very great and grave economies in public expenditure" in both central and local government, from which education will obviously not be exempt. Government is meanwhile conducting a review of capital expenditure in 1952 as announced by the Chancellor of the Exchequer on the 7th November. The Minister of Education recently informed the House of Commons that no decision would be made to alter the school building programme until that review has been completed.

It is singularly unfortunate that local education authorities development plans were prepared and voluntary school projects formulated when interest rates were low. The Education Act, 1944, Section 105, promised loans in approved cases to managers and governors of aided and special agreement schools "of such amount at such rate of interest . . . as may be specified in an agreement made between the Minister and them, with the consent of the Treasury." The loan charges were originally fixed at 2½ per cent. They were later raised to 3 per cent. Now they are raised to 3½ per cent. This is a fifty per cent. increase in the annual charges which will have to be met by such governors and managers. The effect may well be to cause such voluntary bodies to abandon projects already proposed. In that event the local education authority would have to make the proposed provision itself, largely at the expense of the local ratepayer. It will be interesting to learn what consultations took place between the Government and the Church authorities before the announcement of the new interest rates was made.

Roman Catholic Schools.

In a pastoral letter, Cardinal Griffin has stated that to provide the schools required for Roman Catholic children in his diocese will cost, according to present day prices, £4,500,000. Cardinal Griffin estimates that in the whole of England and Wales the Roman Catholic Church will spend some £50,000,000 on new schools during the next thirty years. On education in general His Eminence expressed with clarity a view held not only by Roman Catholics but by many other Christians too.

The Christian education of a child has therefore to take into account the whole child, its nature and its purpose, and for this reason any attempt of the State to arrogate to itself the whole function of education

conflicts with the rights of Christian parents and of the Church.

Many of course consider that the Education Act, 1944, is far from arrogating to the State the whole function of education. The Cardinal referred to Communist-controlled states where church schools had been suppressed and with it all Christian education, where indeed not merely non-religious but anti-religious education was compulsory. This was mentioned as showing how easily schoolchildren can become "mere tools in the hands of unscrupulous politicians." The Cardinal appeals for funds to meet his great educational challenge. It will be interesting to see whether the Church in England and Wales will take similar action regarding Anglican schools or whether the dual control of the future will be represented solely by Roman Catholic and Council Schools.

Church Training Colleges.

SOME indication of the great work being done by the English and Welsh Churches in the maintenance and extension of training colleges was given at the Autumn Standing Conference of Church Training Colleges. Canon Stopford mentioned as one development of particular interest that two church colleges were now taking post-graduate students for the post-graduate certificate course. In the matter of recruitment, the position of church colleges is very satisfactory. The Church is now urged to co-operate in suggesting and making possible the teaching vocation to older men and women, who have begun life in other occupations. The Independent schools were most ready to help to raise, as is so necessary, the number of men students. The general religious life of the twenty-six church training colleges in England and Wales continues to grow stronger and deeper. The teachers coming out of the colleges are of improved quality. The colleges, too, have taken their proper place in the Area Training Organizations, where they are exercising a good and helpful influence. The "intimacy and friendliness of their relations with outside bodies" and their value were also mentioned. It is hoped to make far more widely known than at present the need for Christian teachers and the provision made by the Church and the Ministry of Education to meet those needs.

Primary School Plans.

BUILDING Bulletin No. 6 on Primary School Plans is of unusual interest in that it examines and criticises twenty real primary school plans which present points of educational interest. It is frankly recognized that "to-day we can only be certain that conceptions of school building will change as they have changed continuously over several generations." The Bulletin is concerned not with structural, architectural or financial points but with the educational function of primary school buildings. As such it deserves study by all who are interested in the planning of infant and junior schools. It is indeed the expressed hope of the Ministry that the Bulletin will serve "to bring administrators, teachers and architects together to discuss and advance the science of school planning."

It is well to be reminded, in days when novelty *per se* is often regarded as meritorious, of the Rules of the Education Department of sixty-six years ago. From these

rules the following sentence is quoted in the Foreword of the Bulletin—

"School planning is the science of thoroughly adapting every part of a building, even the minutest detail, to the work of school teaching."

There is, in fact, much in the bulletin that is refreshingly old. There is, for example, the warning against too much emphasis on aspect and the use of contours. Ideas about the function of the assembly hall, one is told have changed considerably during the last few years. The hall is no longer reserved for formal assembly or public functions. It may be regarded as an extension of the classes normal working space.

"The present conception of the educational function of the hall places it at the core of a primary school."

This should be reflected in the planning. All this, of course, was well known fifty years ago, but was lost sight of recently and has now been re-discovered. Teachers may not agree that there is no reason why playgrounds should not be sited away from the building. There is, in fact, much in the Bulletin that can be discussed and argued with profit.

Parents' Choice.

EVEN Manuals of Guidance do not deal with all the problems created by the conferment, at any rate in theory, on parents by the Education Act, 1944, of some right to choose how their children shall be educated. The 13 year old son of a commercial traveller (not himself a Welshman) attends a grammar school in

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a non-Welsh speaking town in Glamorgan. The father desires him to follow a career in which mathematics will be required—perhaps even more mathematics than he was receiving at that school. The governors on the other hand require him to take the Welsh language as a compulsory subject until the end of his third year. The father ordered his son to refuse Welsh lessons and to do more mathematics instead. The boy was in consequence expelled from the school in September. After the matter had been referred to the Minister of Education, the boy was re-admitted. The father repeated his action and apparently for a while the boy was allowed to carry on with extra mathematics. Now it is reported that the Minister has refused to interfere with the school curriculum and that the boy has been suspended. Obviously a parent cannot be recognised as having the right to determine at any age his child's curriculum. On the other hand there seems here to be a case for consideration. Welsh, like Esperanto which some Grammar schools teach, may be of singularly little real use or value to some of the pupils who are compelled to study it for three years of their grammar school course. Need the subject be compulsory in all cases? Are the reasons for making it compulsory really educational reasons?

Mr. Wynne Ll. Lloyd to succeed Dr. W. Thomas

Mr. Wynne Ll. Lloyd, a Staff Inspector in the Welsh Department of the Ministry of Education, is to succeed Dr. William Thomas, C.B., as Chief Inspector of Schools for Wales. Dr. Thomas will retire in May, 1952.

A Welsh-speaking Welshman, Mr. Lloyd is a native of Pontardulais. He was educated at Gowerton County School for Boys and Trinity Hall, Cambridge, where he graduated in Geography. After teaching experience in Manchester and Swansea he was appointed an Assistant Inspector within the Welsh Department in 1940. As a District Inspector he has been in charge of Cardiff and Glamorgan successively, and he has served as a specialist in Geography for Welsh Secondary schools.

British and American Schoolboy Scholarships

The English-Speaking Union will again award Scholarships for British and American schoolboys in 1952. A group of well-known American Private Schools (the equivalent of British Public Schools) have generously agreed to offer a number of British Public Schoolboys aged 16½ to 18, free board and tuition for one year. Similar generous facilities for American boys will be given by a number of British Public Schools. Boys will enter American schools about the middle of September, 1952. Parents of successful candidates are required to pay only the cost of ocean transport and incidental expenses.

Enquiries should be addressed to the Head Master of the candidate's present school or to Miss G. C. Cadogan, Secretary, British and American Schoolboy Scholarships Committee, The English-Speaking Union, Dartmouth House, 37, Charles Street, Berkeley Square, W.1.

There are a number of athletes of international status in the London teaching service and the Education Committee state that their participation in international sporting events has a stimulating effect in the schools. Arrangements are proposed whereby teachers taking part in these events may be granted leave with pay.

London Comprehensive Schools

At the last meeting of the L.C.C. Education Committee, a sub-committee reported on certain aspects of building costs for the proposed Holloway, Parliament Hill and Strand comprehensive high schools.

The Minister of Education had suggested that the cost of the schemes for the Holloway and Parliament Hill schools ought each to be based on the provision of 850 more places (1,360 in all), plus a sum for essential work on the existing buildings. The Sub-Committee have approved revised plans accordingly, but the projects have had to be transferred to the 1952-53 building programme.

Revised proposals to reduce the estimated cost of a place at the Strand School have already been reported, and the Sub-Committee say that the provision of accommodation by the erection of some blocks of six to nine storeys which involve higher costs could only be avoided by the allocation of a greater site area, not practicable in London, or by the further curtailment of play and amenity spaces: this is educationally undesirable. For the Strand School the additional cost arising from the proposed nine-storey block will be offset by a variation in planning. The schedule of accommodation for Strand School has been approved for 2,210 pupils.

Tall buildings are not likely to be required for more than two or three schools proposed on other sites already approved.

Re-numbering of Schools, etc.

As a consequence of certain changes which the Ministry has decided to introduce in its system of registering and filing official papers, it will be necessary to review the present numbers allotted for identification purposes to local education authorities, schools and other educational establishments, says Admin. Memo. No. 401. Under the new system, which will be introduced as soon as possible, a three figure number will be allotted to each local education authority, and a four figure number to each school. The full number of any school will, therefore, consist of the three figure number of the local education authority, followed by a stroke, followed by the four figure number of the school.

Local education authorities will be numbered in alphabetical order within the range 401 to 599 in the following groups: English Counties; English County Boroughs; Welsh Counties; Welsh County Boroughs. Each local education authority will be advised by the Ministry in due course of the number allotted to it.

Numbers of schools and other educational establishments will be allotted within the range 1,000 to 5,000.

Record Library Serves 50 Schools and Youth Clubs

The report of the Borough Librarian for West Ham says that in addition to the successful co-operation in the matter of exhibitions and the normal routine of "talks to schools," on libraries and books, the School Library Service has continued its development during the period 1949/51. Forty schools now use the service and 125,000 issues have been recorded in the last two years. The Gramophone Record Library now serves fifty schools and youth clubs with an issue of nearly 5,000 records during the last two years.

Mr. J. A. Sutherland, former Deputy Chief Education Officer of the British Military Government in Berlin, left for Afghanistan where he will act as an advisor to the Afghan Government in its programme of expanding trade school facilities.



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Modern Trends in Primary School Building

Head Teacher's Room no longer "Forbidden Sanctum."

Modern trends in the building of primary schools are reflected in the Ministry of Education's "Building Bulletin No. 6." To show present-day developments, plans for twenty new primary schools are reproduced in the Bulletin, and a commentary given on each one.

The plans were chosen from among the 800 primary schools now being built by local education authorities and the several hundred others being planned. They were not selected according to any preconceived idea of the ideal primary school, but in order to illustrate different solutions to the problem of planning various types and sizes of such schools.

Probably the most striking feature of nearly all the plans is the almost total disappearance of the formal corridor - "long, institutional and one-sided." While this kind of corridor is still to be found, the bleak, tunnel-like effect has, for the most part, been avoided by open alcoves or recesses which take the place of large centralised cloakrooms. In one plan, the space required for access to other parts of the school bears little or no resemblance to the ordinary corridor; there is no hard-and-fast definition between the dining-room, entrance spaces or the main circulation area, which is of varying width and constantly changing outline and flows past the hall to give access to all the class spaces. It can be used for non-classroom activities by several groups of children at a time.

Administrative rooms are now generally sited centrally and not in a separate wing. "The old concept of the head teacher's room as a forbidden sanctum is vanishing as a result of the freer treatment of the administrative wing" states the Bulletin. Such rooms are mostly adjacent to the entrance hall, readily accessible to visitors and within easy reach of all class spaces.

The problem of creating a suitable environment for children in their first school years has been most successfully met by variety and informality in the shape of class spaces or upon the relationship of class spaces one with another. A breakaway from the "string of identical compartments" is far from universal, however. Classrooms are much more rigidly square or rectangular at the junior stage and the Bulletin points out that while a degree of formality may be in keeping with the needs of junior children, variety is still a considerable advantage.

"Ideas about the functions of the hall have changed considerably during the last few years and there will no doubt be further change," states the Bulletin. "The time has passed when the hall was reserved for formal assembly or public functions." Many plans show the hall designed in conjunction with classrooms so that it may be regarded as an extension of their normal working space where freer activities can be carried out than would normally be possible within the limits of an ordinary classroom. It seems that more attention is likely to be given to the need for a space in which the natural energy of young children can find an outlet in such activities as swinging, jumping and climbing. This implies a new approach to the design and equipment of the hall and perhaps to its relation with outdoor play spaces.

The present conception of the educational function of the hall places it at the core of the primary school and this is reflected in the planning of the majority of twenty schemes illustrated. There is still a marked tendency, however, to treat the hall merely as a large square, or nearly square, space.

The tendency to avoid planning the dining space as a large room tacked on to the school at a point convenient for food deliveries to the kitchen is welcomed. It has become

a large space, second only in importance to the hall, which can be used for non-classroom activities as well as for dining.

Another feature noted in the Bulletin is that school entrances are no longer kept exclusively for ceremonial purposes. Children, staff and visitors alike use them and they are generally used as a waiting area for visitors, including parents, who are thus able to get a better picture of the life of the school than if confined to a separate room.

International Survey of Compulsory Education

The period of compulsory education is longer in this country than in any of the other forty-seven nations surveyed in a joint Unesco-International Bureau of Education report on "Compulsory Education and Its Prolongation."

The period varies from ten years in this country (and in one Australian province) to nine years in most States in the U.S., eight years in France, seven years in Sweden, six years in Spain, five years in Peru, to four years in the Philippines.

Compulsory education exists in all forty-eight countries surveyed, with the exception of Indonesia.

Compulsory education begins at the age of five years in this country, in Ceylon, and to a limited extent in Czechoslovakia and Egypt. In twenty of the countries covered in the report, the age of admission is six years; in twenty-five other countries it is seven years. The school entry age is eight years in Ontario (Canada), Finland, and in nine States in the U.S.

The most common school leaving age is fourteen years, but it is fifteen years in this and the following countries: Czechoslovakia, Finland, Iceland, the Netherlands, New Zealand, and in some parts of Canada, Australia, Switzerland, and South Africa.

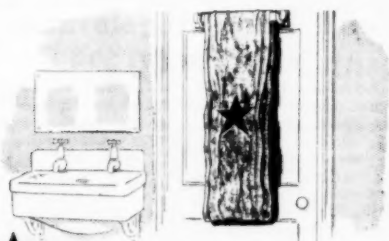
In forty States in the U.S., the minimum school leaving age is sixteen years, in four States it is seventeen years, and eighteen years in the remaining States.

Part-time day continuation classes exist in nearly all the countries surveyed. They include compulsory courses (for children not pursuing their studies at a secondary school) and optional general courses for adults. In France, a child who has completed his eight years compulsory education and is not continuing his education at a secondary school, is compelled to choose (a) agricultural training up to seventeen (300 hours a year); (b) domestic science training up to seventeen (300 hours a year); or (c) industrial or commercial training for at least three years (150 hours a year).

Penalties for the non-attendance of children at school exists in all forty-seven countries, save Brazil, where the school system is still incomplete. The education authorities in Finland and Sweden have power, should warnings and fines prove useless, to take a child away from his parents and place him in the care of another family. The payment of family allowances in Canada is conditional upon attendance at school by children of school age. Generally, however, failure to comply with the compulsory education provisions is becoming increasingly rare.

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The Secretary of State for Scotland proposes to review the educational endowments in Perth and Kinross in terms of Part VI of the Education (Scotland) Act, 1946. He has appointed Mr. C. W. Graham Guest, K.C., to hold public local inquiries into ninety-three endowments. The inquiries will be held in the County Offices, York Place, Perth, from 20th till 22nd December.



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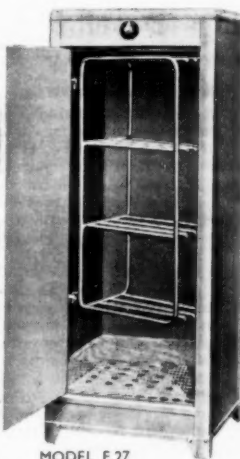
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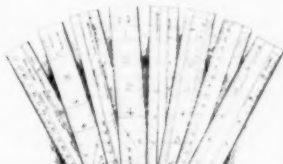
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School Savings Develop Character

Sir Martin Roseveare's Talk to Surrey Teachers.

About 150 teachers from three Education Divisions in Surrey attended a meeting at the County School for Girls, Guildford, to hear a talk by Sir Martin Roseveare, H.M. Senior Chief Inspector of Schools. The Lord Lt. for Surrey, General Sir Robert Haining, K.C.B., D.S.O., was Chairman, and the meeting was organized by the West Surrey Constituency of the National Savings Movement with the co-operation of the Chief Education Officer for Surrey, Mr. R. Beloe.

Sir Martin said that everyone would agree that a school needs an aim and purpose. These would differ in each school depending upon environment and the personalities of the staff and children. "I think we agree," he said, "that a school must essentially be a living and growing community. We should agree that every member of the community—child or teacher—must be regarded as an individual personality with something of his own to offer, with a desire for achievement and worthwhileness and a feeling for personal effort and the importance of it. Members of that community ought to display interest in the life of the community, interest in their own life, activities, and achievements. We would like a sense of service—service to that community and also to the wider one. We would like to do our utmost in the community to develop a sense of justice, respect for work and a desire for work and knowledge and high standards generally. I think we should like every member to determine to make the best of himself in every way. I do not suggest that these themselves are the aims and purposes for a school but we should incorporate them.

"Every school must decide for itself how to tackle its aims. The fundamental thing is to get to know the children. We want to harness all those interests we can discover in every child and encourage others which at the moment we cannot discover. We cannot hope to know the children for educational purposes unless we know a good deal about the parents, friends, background, clubs and gangs. Therefore we must join forces and collaborate with the parents, churches, and so on. We should do our utmost to make clear to the child that we regard his life individually."

Although planning was a good thing we must not over-plan. We must leave some elasticity for variety.

Sir Martin related school savings to this background. He said that the vital national need for Saving was not an adequate reason for introducing it into schools but that undoubtedly it could suitably be introduced into school life. Savings could be related to the aims and purposes of the school. Savings make a real contribution to individual personality. They introduced the element of self-restraint, effort, achievement and service—all inherent in the business of Savings. The child was a real person dealing with real things that matter. Savings had something very real to offer to the school as a community, to contribute to the growing social life of the school. They showed in a very obvious way how the community consists of and depends upon its individual members.

Savings in one school alone was part of the bigger movement in the surrounding area which in turn affected the working of the National Movement with international implications. As regards collaboration of parents, savings ensured this because although we did not want savings at school to come simply from the parents with no real interest by the child, on the other hand we did need the interest of the parents. It is an ideal example of partnership between children, parents and school.

Savings entailed respect for property, one's own and other people's, and savings ideas could make some contribution towards the campaign against juvenile delinquency.

London's Youth Employment Service

The second Annual Report on the L.C.C. Youth Employment Service, prepared for submission to the Minister of Labour and National Service, covers the period from 1st August, 1950, to 31st July, 1951. It sets out many interesting new developments which have taken place during the year and makes some pertinent comments on the young people of to-day.

One point made is that "by no means all young people are as unsettled, irresponsible and indifferent as is sometimes supposed." This is borne out by the fall (15.5 per cent.) in the number of boys and girls registering for assistance in finding work for a second time or more in the year. The report continues: "It is noteworthy, too, that the bearing of boys and girls using the service has improved. When the service began it was quite usual at some bureaux for small groups of boys of seventeen years and over, unskilled, sometimes ill-mannered and truculent, to demand highly-paid jobs. Those gangs have left the scope of the service, and while it would be too much to expect the mannerisms which characterised them to disappear overnight, they are less in evidence in succeeding age groups."

Young workers are encouraged to call at bureaux some three months after they have begun work and again some fifteen months later so that any necessary further vocational guidance can be given. This individual review of progress is entirely voluntary, yet an attendance figure of over 14,000 was registered during the year, i.e., 45 per cent. of those invited.

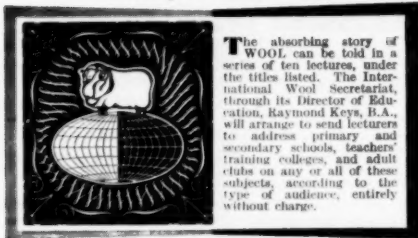
A sample check was taken of 398 boys and girls who attended these "open evenings." The majority of the young people had followed the advice given in taking up employment, and 70 per cent. of the boys and 74 per cent. of the girls had settled down well in their first employment. A further 18 per cent. of the boys and 12 per cent. of the girls were replaced in more suitable work and the remainder were being given further advice and help.

Most concern is caused by the small group who do not readily accommodate themselves to the change from school to work. The too frequent changes of work by some boys and girls, made possible by the number of jobs available "bodes ill for any settled condition in adult life." A sample enquiry covering 220 boys and 206 girls showed that at 17-18 the average number of changes of jobs had been just over seven for boys and just over five for girls. The reasons given for leaving work are analysed in the report.

The need to integrate guidance about employment with the school curriculum is stressed. The report advocates using the child's interest in future employment to give reality to the syllabus rather than to ignore or suppress that interest as a "distraction from studies." 716 school talks were given in the year, mainly in the last but one term and adapted to fit the syllabus of the school. Greatly increased use is being made of films in vocational guidance, and more talks by specialists are now arranged in the period between the school talk and the school leaving interview. Educational visits arranged by the youth employment service increased by 59 per cent. to 1,320.

During the year surveys have been made of the position in London under the National Schemes of Recruitment and Training adopted by the building, plumbing and heating and ventilating trades. Co-operation between the youth employment service and building trades employers and their associations is described as good. Of boys in the building industry the report states: "On the evidence of the survey too few are being trained. The ratio of boys to adult labour is low and must be a matter of concern to the industry . . .". Another comment made is that "the higher rate of pay enjoyed by young labourers as against the rate paid to apprentices is frequently a deterrent to

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apprenticeship. The practice of employing young labourers and paying inflated rates is unsatisfactory." Suggestions referred to in the report include voluntary restriction by employers in recruitment of labourers under eighteen years, the equalising of the pay of the apprentice under eighteen with that of the labourer, review of the length of apprenticeship training and the "pooling" of apprentices by employers.

The number of handicapped persons dealt with by the youth employment service during the year was 1,120. Much interesting information is given on the placing of these young people. Those educationally sub-normal have generally proved to be good workers. Epileptics have been the most difficult to place and to keep in employment. 156 boys and 132 girls were voluntarily registered under the Disabled Persons Employment Act, 1944, at the end of the year and of these only four boys and three girls were not placed.

The report concludes with a reference to school leavers whose full time education continues to sixteen years and over. At present they are catered for by the Ministry of Labour and National Service in association with the Headmasters' and Headmistresses' Employment Committees, but from February, 1952, the Council will assume responsibility for this service.

Burnham Committee

A meeting of the Burnham Committee was held on November 19th, at the request of the Teachers' Panel. The Teachers' Panel submitted a claim for a revision of the basic scale of salary having regard to the increased cost of living. The Authorities' Panel are examining the claim submitted by the teachers, and the Committee adjourned to a date to be arranged.

Lessons in Thrift

A novel way of learning arithmetic is proving highly successful in Balby Infant School, Doncaster, where the young children do their sums with the actual money in their School Savings Group's bank.

This is only one instance of the valuable work thousands of teachers are doing in connection with the teaching of thrift through National Savings. There are now 27,000 School Savings Groups in England and Wales, with a membership of nearly two million children, or 33 per cent. of the total number in the schools.

Art Awards, 1952

The Minister of Education, on the advice of the National Advisory Committee on Art Examinations, has decided to introduce, in 1952, certain changes in the arrangements for the examinations which were announced in Circular 220 of 31st July, 1950. The principal changes, which are set out in Admin. Memo. No. 403, have as their aim the dual object of a reduction in the amount of work which candidates are required to submit to the Ministry and an increase in the responsibilities of the staff of art schools for conducting the examinations.

Foreign Scholarship Awards

Twelve European Governments and universities have awarded fifty-eight scholarships to British students for the academic year 1951-52. They will be similar to those offered by the British Council to university graduates of those countries. Although the Council assists in most cases in the administration of the selection boards, the awards are financed by the foreign governments and universities concerned. The scholarships provide free tuition and maintenance, and the majority are tenable for the academic year.

The countries awarding them are Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, and Sweden.

Information about scholarships to be awarded for the academic year 1952-53 will be published in January.

Educational Drama Association

The final course in the series arranged by the London Group of the Educational Drama Association was held on December 1st, at the College of Preceptors. Mr. Peter Slade (Director of E.D.A.) lectured on: "Drama for Children from 9-15 Years." In the course of his talk, he alluded to the harm that had been caused by the misuse of expressions such as "free activity" and "stimulate," in connexion with Child Drama; he suggested, rather, the word "inspire"—and went on to stress the importance of guiding all activities, and leading the child and young person sympathetically along the difficult path of discovery of self and life.

In the practical work which followed, Mr. Slade showed how simple exercises, such as fights with imaginary weapons, could lead to exciting and deeply satisfying dramatic moments in improvised scenes, taking as an example a battle sequence (introducing the characters of Falstaff and his cronies) from Henry IV.

The session closed with questions and discussion on the provocative themes of Speech Training and use of Costumes.

Monthly courses will be held during the Spring, and details will be announced shortly.

Road Safety Campaign Organized through Filmstrips

Following the recent announcement that a series of six filmstrips featuring the well-known cartoon character, Nipper, are now available, Associated British-Pathe reveal that a country-wide Road Safety Campaign organized in conjunction with Strip No. 6, "Careful Nippers," is well under way.

"Careful Nippers" is a 24-frame strip, offering road safety instructions in a manner entertaining to infants. Kerb-drill, walking a dog, playing in streets and many methods of avoiding accidents are covered. To stimulate interest in road safety, Associated British-Pathe have designed handsome certificates for issue to children who have passed their road safety tests to the satisfaction of local authorities. The certificates have spaces for the name of the child and the signature of the issuing authority.

The Right Hon. Lord Moran, M.C., M.D., F.R.C.P., has accepted the office of President of the Health Congress of the Royal Sanitary Institute, which is to take place at Margate from 22nd to 25th April, 1952.

A Permanent Exhibition, which includes the showing of films and filmstrips, is being staged by the Tea Bureau, at the Tea Centre, 22, Regent Street, London, S.W.1. Details of the exhibition and preparatory material can be obtained from the Education Department of the Bureau.

Educational Productions, Ltd., producers of film-strips and wall charts, have published three booklets (*Water in your Home*; *Electricity in your Home*; *Gas in your Home*, 1s. 6d. each), which may be used in conjunction with other visual aids or by themselves. Together with *You and Your Town*, 2s., an illustrated presentation of local government, prepared in collaboration with N.A.L.G.O., they are of such practical help as well as of informative interest that they should be at hand in every home.

The Church Schools

BY GORDON MILLINGTON.

The Churches have always been educational pioneers, though the curriculum of the earliest church schools would nowadays be considered distinctly unambitious; although their main aim was merely to impart a sufficient degree of literacy to enable their scholars to read the Bible, theirs was no mean achievement against the background of the times.

To-day one third of all the schools in England and Wales are still wholly or partially maintained by the Church of England, whose 9,445 schools make up 83 per cent. of all voluntary educational effort. Churchmen have therefore the right to be proud both of their past educational record and of its continuance into the present, although in the latter their pride should be, not of the stiff-necked, but of the critical variety. All is not well with the Church Schools, and I feel sure that both clergy and laity will accept the criticisms of a teacher in the spirit in which they are offered.

It is, unfortunately, true that the profession as a whole is not wildly enthusiastic about denominational schools, and before holding up the hands in horror at this it would be wise to consider whether there is any substance in what the teachers have to say, remembering that they speak with the interests of the children at heart.

Let us begin with the question of buildings; Dr. King, M.P., speaking in the House of Commons on the question of the Black List Schools, many of which are ecclesiastical foundations said, "On the List to-day are schools which were condemned in 1935, schools which were condemned in the First World War, schools condemned in the list of 1908 and schools which in 1951 are not conforming to the building standards laid down in the Education Act of 1870." One case has been reported of seventy-eight infants crowded into one room so small that there was absolutely no free space for movement. It is obvious that conditions so unpleasant for both teacher and taught make education as it is to-day understood wholly impossible, and it is no small tribute to the devotion of many teachers in Church Schools (of whom I am not one) that they have still managed to maintain some educational standards in such circumstances.

Then again, there is the question of professional freedom. While qualified teachers welcome the advice of the clergy on the scope of the religious syllabus, they are placed in a very unpleasant position if the vicar insists, possibly with the best intentions, on deciding *how* religious instruction shall be given. Most clergy, I think, now realize that this is a matter which the teacher alone is professionally competent to decide; but not all are reasonable and it has not been unknown in the past for some to attempt to extend their jurisdiction over secular instruction also. There is no specifically Christian way of teaching the multiplication tables, and teachers rightly resent such a reflection on their professional judgment. If the school has a bad teacher, by all means get rid of him, but if it has a good one his integrity must be relied on.

The practice of making teaching appointments in Church Schools conditional upon the performance of extraneous non-educational duties also finds little favour with teachers. Their job is education, a difficult and

unrewarding enough task in these days, and it is unfair to regard them also as overtime organizers of sales of work, school jumble sales and the like. In point of fact, church school teachers have never been criticized for adopting an unsympathetic attitude to ecclesiastical attempts to raise much-needed money for their schools, but it should be clearly understood that if they do help in such ways it is on a voluntary basis and not a duty to be exacted as part of their conditions of employment. While such abuses exist, the Churches will continue to have difficulty in getting the best teachers for their schools.

From the foregoing it might appear that the Church was being charged with indifference and apathy towards its educational work, but that would be far from true. Such of the obstacles to the renovation of the fabric of denominational education as are practicable are in fact being made, and a proper recognition of the professional status of the teachers is gradually coming about, especially in parishes where the incumbent is not unresponsive to the new educational vision embodied in the 1944 Butler Act.

The financial settlement reached under that Act is generally recognized as a just one, and it is only the Church of Rome which seeks to upset it. Finance remains, however, the main stumbling block preventing the Churches from doing what they would wish; ecclesiastical endowments have diminished in value with the fall of the pound, and the laity are no longer able to meet from voluntary donations the ever-mounting costs which the maintenance of the schools involves. Increasingly the financing, and therefore the control, of the schools is passing out of clerical hands, but there may be hope in the fact that the indirect influence of the clergy has often increased as their direct power has diminished.

I know of a Council Secondary School which, although completely independent of the church, has two clergymen on its Board of Governors and has present on its Speech Days the six vicars associated with its contributory church schools. They are also welcomed at other times and have facilities for continuing in school time the religious instruction of the children from their parishes; these facilities are granted, not by order of the Education Authority, but entirely at the discretion and by the wish of the head master. It is indeed true to say that although teachers view without much sorrow the departure through the front door of the parson-inquisitor, they willingly open the back door to a welcome newcomer, the parson-friend. When we remember in whose Name he comes, the latter attitude is surely the more appropriate.

Membership of School Savings Groups at the end of September last was 1,719,000, an increase of 12,000 in a year. The total of school savings groups was 26,690. These figures are for England and Wales. The highest percentage of school group savers to the population is in South Wales, followed by the Northern Counties, the East Midlands and the Eastern Counties.

The Awards Branch of the Ministry of Education, now at 11, Bryanston Square, London, W.1, will to-morrow (Thursday) be transferred to the Ministry's headquarters, Curzon Street, London, W.1. All correspondence should be addressed to the Branch at Ministry of Education, Curzon Street, London, W.1. The telephone number will be MAYfair 9400, and the telegraphic address, "Aristides, Audley, London."

BOOK NOTES

Sing Praises, by J. M. Macdonald Ferguson. (Religious Education Press, 7s. 6d.)

This volume completes a trio of worship books published by R.E.P. for use in Day and Sunday Schools. Here there are one hundred services of worship for the Infants' Assembly in the Day School, for use in Primary Departments of the Sunday School, or at home. Drawing from her wide experience of this kind of work, Miss Ferguson has based these orders of service on themes that appeal to the small child, and are cleverly linked together to emphasize a spiritual truth suited to the needs of children of this tender age. Hymns, prayers, poetry readings, gramophone suggestions, finger play, and all that is required in one compact volume for leading the worship of children. The book includes a number of tunes as well as original hymns, and an exhaustive index.

A.B.C. of Plain Words, by Sir Ernest Gowers. (H.M. Stationery Office, 3s.)

Sir Ernest Gowers wrote *Plain Words* in 1948 to help the civil servant to overcome the criticism levelled at him for his use of "Officialese," and to bring home to him the need for improvement in his use of the instruments with which he works. The lively criticism it aroused showed that his method evoked interest in the minds of the general public and a desire for improvement in the hearts of their obedient servants. But the task of eliminating "Officialese," entails a constant search for concise methods of expression. This has shown the need for a handy book of reference which will offer alternatives and can be looked upon as an inseparable companion to *Plain Words*, which Sir Ernest has here provided.

Essential Everyday Arithmetic for Girls, Books I and II, by W. B. and Evelyn White. (University of London Press, 2s. 3d. net, each.)

These are most useful little books, particularly suitable for girls leaving school at fifteen for whom marriage and the running of a home are the probable future. Each section deals with some detail of home life involving arithmetical calculation—budgeting, furnishing, floor-covering, heating and lighting, shopping, rates, taxes, the Post Office, etc. A page or two of useful general information is given followed by practical exercises in arithmetic based thereon. Since the books derive their usefulness from their relation to existing conditions, they must of necessity suffer from the rapidly fluctuating cost of living, so that in some respects (e.g., telephone charges) they have become out-of-date even before publication; but it should be no very difficult task for the alert teacher to make the necessary adjustments.

E.F.C.

Roots of Science, by J. A. Lauwerys, D.Sc., F.R.I.C.

The Sea and its Living Things, by H. S. Hathfield. Basic English Readers. (Evans Brothers, 6s. net.)

The final test of the usefulness of any language must be the facility with which it can express ideas. "The Greeks had a word for it" is a tribute that was not lightly won by that most subtle and flexible of languages. And the language that has come perhaps closest to Greek in this respect is English. He, therefore, who deliberately denies himself access to the finer niceties of the English vocabulary in order to write a book about ideas in Basic is setting himself a formidable task. These two excellent additions to the readers now available to those learning English via Basic solve the problem remarkably well. It is only after reading many pages that one becomes aware of the limitations

imposed by the restricted vocabulary, and there is little of that artificiality which marred some of the earlier attempts in this field.—E.F.C.

* * * * *

Sons and Daughters, by Roger Pilkington. (Allen and Unwin, 18s. net.)

When the expert—especially the scientific expert—sets out to write a book for the general reader he is embarking on an enterprise beset by shoals and quicksands. Sir James Jeans has proved magnificently that it can be done, but far too many begin conscientiously enough to write simply and intelligibly, but no sooner are they well astride their hobby-horse than away they go on a Pegasus flight into the clouds far beyond the reach of their frustrated readers. Not so Mr. Pilkington. A book which begins with a note of thanks to "Mr. Johannes Gutenberg for his invention of the printing-press, without which the profession of author would be limited in scope . . . and to the many friends who have helped by reading the manuscript and by their continual flow of suggestions, one of which has been adopted," augurs well, and we are not let down. The complex tangle of genetics and heredity is unravelled for us so that "he who runs may read." We follow with absorbed interest the growth of the human baby from conception to birth and learn of the remarkable events in the early stages of its development. The factors which determine the physical, mental and emotional entity which is a human being are clearly outlined and the degree to which these can be predicted examined. The influence of environment is discussed and assessed. "Sons and Daughters" is a book for fathers and mothers as well as for students of biology. It brings to a difficult yet momentous subject the illuminating power of a lively, enquiring mind.—E.F.C.

* * * * *

One Approach Geography History Series, by J. F. Houston, M.A., and A. M. Russell, M.A. (Oliver and Boyd, 2s. 6d. net, each.)

Although it is generally agreed that the keeping of subjects such as geography and history in watertight compartments, particularly with the less academically minded pupil in the secondary modern school, is undesirable, it is often difficult to get away from the traditional divisions because suitable combined textbooks and reading matter are not available. Try as the teacher may to link "social studies," history and geography remain separate entities so long as separate books are used. The new History Geography "One Approach" series has, therefore, the initial merit of meeting a felt need. The aim is to give the child who is to leave school at fifteen an impression of the life and character of other lands as they are to-day. The approach is through human geography and social history, combined to trace the development of a people and a country to their present state.

It is no easy task to cover so wide a field in some ninety pages of text and illustrations, and the treatment must perforce be superficial. But what has been included is sound and well selected, the impression of the country and its people is lively, balanced and, within its limits, complete. The exercises are particularly well devised; they aim to provoke thought and stimulate enquiry, rather than to usurp the teacher's routine function of testing the pupil's reading. Titles at present available include: The U.S.A., France, Canada, South Africa, China, India, U.S.S.R.—E.F.C.

* * * * *

The Flower Show. Holidays at Summerfield. By Phyllis Denton. (Newnes Educ. Publishing Co., 3s. each.)

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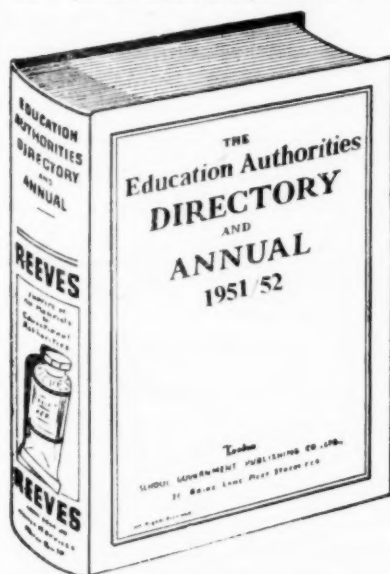
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FILM STRIP REVIEWS

EDUCATIONAL PRODUCTIONS LIMITED

No. 6020 A Christmas Carol.—An Ernest J. Tytler production with stills from the film by kind permission of Renown Pictures Corporation, Ltd.

The children will love this. All the necessary pictures are provided to link up the essentials of the story, and the lesson to be learned is well impressed by a comparison of the first and last frames—Scrooge the miser, and Scrooge the benevolent, in close up! The appropriate passages to accompany the "stills" are available in the script. Equally suitable for primary or secondary schools. A strip which we are confident will be warmly welcomed as a contribution to the Christmas activities for many Christmases to come. 28 frames.

No. 6018 David the Shepherd King.—Stills from the film "David and Bathsheba" by kind permission of 20th Century Fox Film Co., Ltd. Produced by Ernest J. Tytler. In colour. 29 frames.

The strip is intended for two purposes—the first fifteen frames for juniors and the whole strip for adults, as the second part is unsuitable for children. The first part features Samuel anointing David, the fight with Goliath, Saul's jealousy and the taking of the Ark to Jerusalem. The theme which children like so much—David playing his harp to soothe the troubled Saul, which has inspired many an artist's picture—has no picture here! The producer has done his best to comb an "A" film for juniors and has provided us with some fine pictures of costume and customs of the period and a faithful representation of the Ark according to the best sources of information. The strip as a whole for adult audiences—the second part dealing with David's sin and redemption—is a beautiful record of David's life. The stills are excellent and the opportunity of this look into the past should not be missed. The strip closes with David playing the harp to Bathsheba—the symbol of peace and inspiration lacking in the first part.

No. 4940 Bread.—A useful introductory map shows the wheat areas of the world. There are some fine photographs comparing the old and new methods of ploughing and sowing. Reaping, stacking, threshing and storing are all dealt with and the first section concludes with diagrams showing the working of the mill. Bread-making is dealt with in the second half of the strip and there are some fine shots showing the manufacturing processes from flour to the finished loaf. 39 frames. Upper primary and lower secondary schools.

No. 4973—British Birds 4 The Barn Owl.—Those who already have strips dealing with owls (we have seen some fine studies) need not hesitate to add this also to their collection. It is a further testimony of patience rewarded, and we cannot help feeling grateful that such fine studies are available for all to see. Additional features in this strip are the high-speed photographs of the owl spreading its wings and in flight, and the youngsters are not forgotten. A strip of absorbing interest. 29 frames.

NATIONAL FILM BOARD OF CANADA

The following strips are now available in this country, distributed by Unicorn Head Visual Aids, Ltd. All are in black and white and priced at 12s. 6d. each.

Dinosaurs.—A strip of absorbing interest, suitable for all ages from ten years. Produced for the National Museum of Canada, it deals with five Canadian Dinosaurs (including one Carnivore), which may be taken as representative of

the whole group. There are frames of Paleontologists at work, care and transport of specimens and preparation for the museum. Skeletons and restorations give us a thrilling glimpse into the past. A geological time chart and maps are included in the 37 frames.

Lobster Fishing.—"More lobsters are caught in these waters than anywhere else in the world."

This is sufficient justification for this strip dealing with lobster fishing along the coast from Grand Manon to Labrador. The strip is a straightforward one showing the construction and baiting of traps, loading, lowering and marking with floats. The work of fishermen and canning complete the strip. 28 frames. Suitable for primary and secondary schools.

Oil in the Modern World.—The script gives a useful introduction to the history of petroleum; the many uses of petroleum are then discussed. Sources are shown with a World Map. The erection of derricks follows and sinking the drill is dealt with in detail, with some close shots of the biting end leaving us in no doubt as to how the job is done. Pipelines, refinery and storage complete the strip. A very useful introduction to the subject. Suitable for primary and secondary schools. 30 frames.

The Welland Ship Canal.—Commencing with a map of the Great Lakes, subsequent frames take us on a point to point journey from Port Arthur to Lake Ontario with inset maps to show progress. The clear and detailed diagrams of the lock workings supplemented with explanatory photographs make this strip one of the best available describing canals generally. Views of ships passing through the canal, bridges, and system of control are also included. 32 frames.

Canadian History Exploration and Discovery.—A most valuable strip tracing the routes of all the more important explorers such as Cartier, Frobenius, Davis, Hudson, Champlain, Raddison and Grosseillers, La Verendrye, Herne, Mackenzie, Franklin and Amundsen. A portrait of each is also included. 31 frames.

To supplement this and make the history as complete as possible there is a further strip—**The Settlement of Canada**—from the arrival of Cartier to the incorporation of Newfoundland. There is a wealth of information available for reference in the 45 frames.

For those desirous of information on the political side an additional strip—**Political Development**—is available. This deals with proclamations, acts and constitutions, and the formation of the Confederation with maps of progress, etc. 44 frames.

These three strips provide the most complete and authentic reference library of pictures and data on Canadian history at present obtainable. Many of the old prints used in the strips are made available through the courtesy of the Public Archives of Canada.

CANADIAN GOVERNMENT.

Five strips deal with all aspects of the Government of Canada and are presented by the Canadian Citizenship Branch of the Department of the Secretary of State. All have the same method of presentation consisting mainly of diagrammatic simplified pictures (pictographs) supplemented by photographs where possible, and will be very suitable for secondary schools. When ordering any of these strips it would be advisable to give the full title—National Film Board of Canada—followed by the selective title as under:

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Municipal Government, 1—Elections—27 frames.

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GRAMOPHONE REVIEW

Bach (arr. Busoni): Chorale Prelude: 'Ich ruf zu dir, Herr Jesu Christ and Chorale Prelude: 'Nun komm, der heiden Heiland. Dina Lipatti (piano). Columbia LX 1427.

Into his Chorale Preludes Bach put not only technical ingenuity but his very heart. These two, for example, are profoundly moving. But this disc, beautifully played and recorded though it is, raises a question of artistic taste. Is not the piano too slight an instrument to bear the solemnity of this music? And, at another extreme, is not an orchestral arrangement too lush for its essentially spiritual nature? Busoni's arrangements of Bach may be very clever, but to my ear they sound alien to the genius of the piano—and that makes them almost as repugnant as the performances of circus animals—and an outrage on the composer's intentions—and when the composer is Bach, that is a very great crime.

Handel-Beecham: "The Great Elopement." Royal Philharmonic Orchestra, conducted by Sir Thomas Beecham. H.M.V. D.B. 9872-3.

After this outburst, let me say frankly and honestly, that I have thoroughly enjoyed these two records. Six pieces from the first and second suites of Handel have been—what is the word?—surely "arranged" is an inadequate term—for modern orchestra by Sir Thomas Beecham. The result is as delicious as his previous modernizations. Handel's music seems to stand this treatment with amazing success. Here we have all the courtly swagger we like to associate with the eighteenth century, given to us with the refinements and skill of Beecham's own orchestra. Truly, the best of both worlds! And I suppose the truth about "arrangements" is that it all depends on the composer and the arranger, with a dash of the listener's own predilections.

Haydn: Sinfonia Concertante in B flat major, Op. 84, for Oboe, Bassoon, Violin, Cello. Danish State Radio Symphony Orchestra, conducted by Fritz Busch, with (on sixth side), **Mozart:** Faint Kontretanze, K.609, Nos. 1, 2, and 4. Same orchestra. H.M.V. C.4122, 3, 4.

This is not a concerto in the modern sense, but rather like a piece of chamber music in which the four instruments and the orchestra engage in a very agreeable conversation. Bach's Brandenburg Concertos form a close parallel. This piece is played with great refinement and skill, and with a fine sense of style, as indeed, we should expect from the conductor, whose recent sudden death was such a loss to music. Haydn's music is always refreshing. This is as clear and sparkling as water from the Spring. We can never have too much of it.

The Mozart pieces have sometimes been wrongly called "country" dances. They should be "contra" dances, that is, dances with a partner "contra," or opposite. Their orchestration is interesting. The tune of the first dance will be familiar.

Haydn: Concerto in F major. Jean Bouquet (violin), Lionel Salter (harpsichord), and the London Baroque Orchestra conducted by Karl Haas. With (on sixth side)

Hofbal Minuetti in C major and in E flat major. Parlophone R20594, -5, -6.

As delightful as the work noticed above, and as well recorded. I should be hard put to it to say which I prefer.

Spoken Verse. Milton: Lycidas (165-193). When I consider how my light is spent, Avenge, O Lord, Thy slaughtered saints and Comus (93-124). Paradise Lost I, 283-330 on Columbia DX 1794. Paradise Lost I, 527-559, III, 1-36, and XII 624-end, Samson Agonistes 66-109 on Columbia DX 1795. Read by Stephen Murray. Recorded under the auspices of the British Council.

One London Borough has found poetry readings the most successful of its "1951" events. These fine records should increase the interest.—E. J. B.

Two new booklets in the "Choice of Careers" Series, issued by the Central Youth Employment Executive, are: *The Law—Barristers and Solicitors*, and *Wood Sawyer and Woodcutting Machinist*.

From the House of Warne comes a new musical play for children by Dudley Glass, entitled "Peter Rabbit," based on *The Tale of Peter Rabbit*, by Beatrix Potter. Set for fourteen characters in three scenes, it will be found very useful for junior school work.

Going to School, is a new booklet in colours, issued by the Royal Society for the Prevention of Accidents in their campaign for child safety. Prepared for the child who is starting to read, it is suitable for children just beginning to attend school and encountering traffic problems on the way. For a propaganda booklet, it is highly priced at one shilling, a figure which will, we think, tend to restrict its circulation.

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